

CLAIMS

1. A tank having:

5 a filter which divides the tank into upper and lower portions;

a fluid inlet in the lower portion for admitting into the tank a fluid with entrained solids; and

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a fluid outlet in the upper portion through which filtered fluid can leave the tank,

characterised in that the filter comprises:

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filter media supported on a permeable wall, the wall including a filter media outlet which is normally closed; and

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opening means for opening the filter media outlet to allow the filter media to discharge into the lower portion of the tank.

2. A tank as claimed in claim 1, in which the wall of
25 the filter is substantially conical, tapering downwardly to the filter media outlet.

3. A tank as claimed in any one of the preceding claims, in which the opening means for opening the
30 filter media outlet comprises a valve in the said filter media outlet.

4. A tank as claimed in any one of the preceding claims, in which means is provided for operating the opening means remotely.
- 5 5. A tank as claimed in any one of the preceding claims, in which a baffle is provided adjacent the fluid inlet to direct the flow of fluid and entrained solids away from the filter.
- 10 6. A tank as claimed in claim 5, in which the baffle is annular and induces a cyclonic flow in the fluid and entrained solids entering the tank.
7. A tank as claimed in any one of the preceding
15 claims, in which the permeability of the wall is provided by perforations in the wall.
8. A tank as claimed in claim 7, in which the wall comprises a mesh sheet.
- 20 9. A tank as claimed in any one of the preceding claims, in which the wall is formed from a plurality of individual screens.
- 25 10. A tank as claimed in any one of the preceding claims, in which a filter media inlet is provided in the tank above the filter.
11. A tank as claimed in any one of the preceding
30 claims, in which a second filter media outlet is provided in the tank below the filter.

12. A tank as claimed in any one of the preceding claims, in which a fluidising unit is provided in the lower portion of the tank.

5 13. A tank as claimed in claim 12, in which the fluidising unit discharges fluidised solids from the tank through a solids discharge duct.

10 14. A tank as claimed in claim 12 or 13, in which the filter media discharged from the filter into the lower portion of the tank is removed from the tank by the fluidising unit.

15 15. A tank as claimed in any one of claims 12 to 14, in which the fluidising unit is fed with fluid from a second tank.

20 16. A tank as claimed in any one of the preceding claims, in which back flushing means are provided for back flushing the filter media.

25 17. A method as claimed in claim 16, in which the back flushing means comprises a flow distribution device which distributes a flushing fluid over an upper surface of the filter media.

30 18. A method as claimed in claim 16 or 17, in which the back flushing means is fed with fluid from the second tank.

19. A tank as claimed in claim 18, in which the flushing fluid is water.

20. A method of refilling a filter in a tank with filter media, the method comprising the steps of:

- 5 (a) discharging the used filter media into a lower portion of the tank;
- (b) fluidising the used filter media and transporting it out of the tank using a
10 fluidising unit; and
- (c) refilling the filter with filter media.

21. A method as claimed in claim 20, in which between
15 steps (a) and (b) there is a further step of back flushing the filter to wash out the used filter media.

22. A method as claimed in claim 20 or 21, in which
between the steps (b) and (c) there is a further step
20 of cleansing the filter media in a cleanser, such as a cyclone, and in the step (c), the filter is refilled with the cleansed filter media.

23. A tank substantially as described herein with
25 reference to, and as shown in, the accompanying drawings.

24. A method of refilling a filter substantially as
described herein with reference to the accompanying
30 drawings.